National Cancer Institute

A Snapshot of Esophageal Cancer

Incidence and Mortality

Esophageal cancer consists of two primary types, adenocarcinoma and squamous cell carcinoma. Of these two types, adenocarcinoma of the esophagus is more common than squamous cell carcinoma in the United States due to its rising incidence, particularly in white men. Regardless of race or ethnicity, men have higher incidence and mortality rates than do women. Historically, esophageal cancer mortality rates for African-American men have been higher than those for white men, although a steady decline over the past two decades coupled with increasing rates in whites has recently reversed this trend. The downward trend in mortality has not been observed for other racial/ethnic groups.

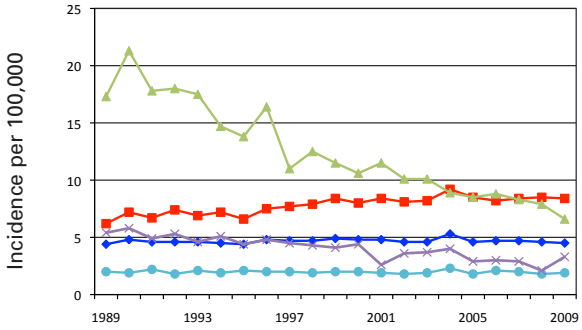
Risk factors for esophageal cancer include tobacco use, heavy alcohol use, Barrett esophagus, gastric reflux, increasing age, and being male. There is no standard or routine screening test for esophageal cancer. Standard treatment options for esophageal cancer include surgery, radiation therapy, chemotherapy, laser therapy, and electrocoagulation.

It is estimated that approximately $1.3 billion[1] is spent in the United States each year on esophageal cancer treatment.

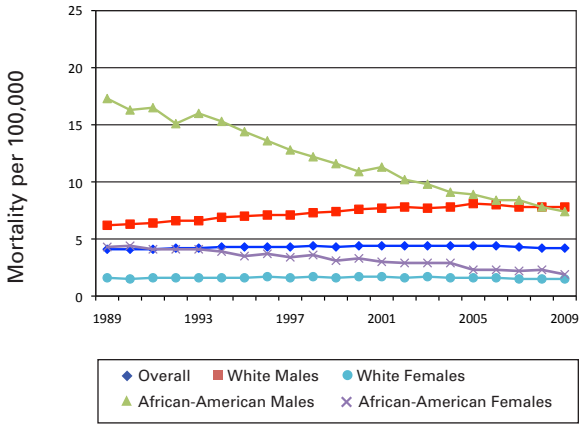
Source for incidence and mortality data: Surveillance, Epidemiology, and End Results (SEER) Program and the National Center for Health Statistics. Additional statistics and charts are available at the SEER Web site.

[1] Cancer Trends Progress Report, in 2010 dollars.

U.S. Esophageal Cancer Incidence



U.S. Esophageal Cancer Mortality



Trends in NCI Funding for Esophageal Cancer Research

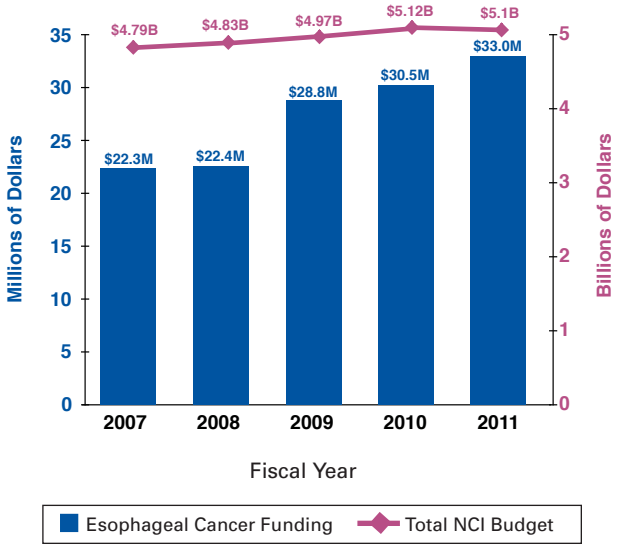
The National Cancer Institute's (NCI) investment[2] in esophageal cancer research increased from $22.3 million in fiscal year (FY) 2007 to $33.0 million in FY 2011. In addition to this funding, NCI supported $6.0 million in esophageal cancer research in FY 2009 and 2010 using funding from the American Recovery and Reinvestment Act (ARRA).[3]

Source: NCI Office of Budget and Finance.

[2] The estimated NCI investment is based on funding associated with a broad range of peer-reviewed scientific activities. For additional information on research planning and budgeting at the National Institutes of Health (NIH), see About NIH.

[3] For more information regarding ARRA funding at NCI, see Recovery Act Funding at NCI.

NCI Esophageal Cancer Research Investment



U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

National Institutes of Health

If you are reading a paper copy of this Snapshot: PDF Snapshots with hyperlinks to additional information and resources can be found online at: http://www.cancer.gov/aboutnci/servingpeople/cancer-statistics/snapshots

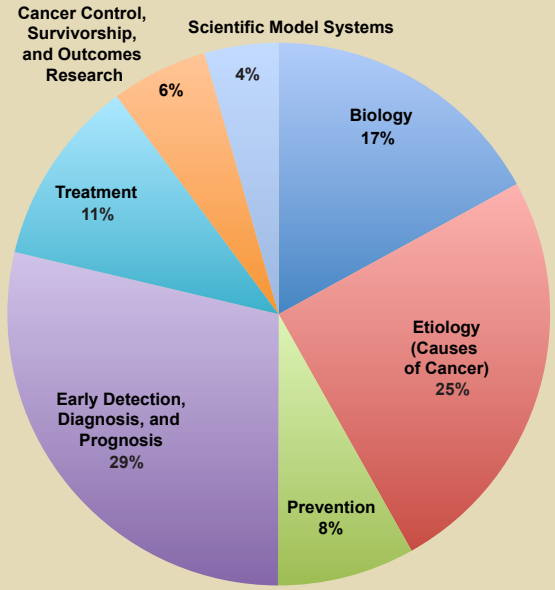
Examples of NCI Activities Relevant to Esophageal Cancer

- The **Prevention Agents Program** provides scientific and administrative oversight for chemoprevention agent development from preclinical research to early phase I clinical trials. The program is currently supporting research on several agents for potential chemoprevention of esophageal cancer.
- The **Epidemiology of Esophageal Cancer Consortia** include the Asian Barrett's Consortium and the International Barrett's and Esophageal Adenocarcinoma Consortium (BEACON), which were formed to enhance international collaborations in research into the etiology and prevention of Barrett esophagus and esophageal adenocarcinoma.
- NCI supports early-phase clinical trials of targeted, personalized cancer regimens through the **Accelerating Clinical Trials of Novel Oncologic PathWays (ACTNOW)** program, including a phase II trial in patients with advanced gastric and gastroesophageal junction carcinoma.
- The **Phase III Randomized Study of Radiotherapy, Paclitaxel, and Carboplatin with versus without Trastuzumab in Patients with HER2-Overexpressing Esophageal Adenocarcinoma** is investigating whether adding targeted therapy to chemotherapy and radiation will reduce disease recurrence and extend survival in people with HER2-positive esophageal cancer.
- The **Esophagus Cancer Modeling** project, conducted by the Cancer Intervention and Surveillance Modeling Network (CISNET), explores the incidence and mortality of esophageal adenocarcinoma, hypothetical screening strategies, chemotherapy, and endoscopic therapy.
- Seven gastrointestinal-cancer-specific **Specialized Programs of Research Excellence (SPOREs)** focus on translational research on the gastrointestinal system, including esophageal cancer.

Additional Resources for Esophageal Cancer

- The **What You Need To Know About™ Cancer of the Esophagus** booklet contains information on diagnosis and staging, treatment, supportive care and nutrition, and taking part in research studies. Information specialists also can answer questions about cancer at 1-800-4-CANCER.
- The NCI **Esophageal Cancer Home Page** provides up-to-date information on esophageal cancer treatment, prevention, genetics, causes, screening, testing, and related topics.
- Information on treatment options for esophageal cancer is available from **PDQ**, NCI's comprehensive cancer database.
- **Clinical trials for esophageal cancer** can be found in NCI's list of clinical trials.

NCI Esophageal Cancer Research Portfolio



Percentage of Total Dollars by Scientific Area
Fiscal Year 2011

Data source: NCI Funded Research Portfolio. Only projects with assigned scientific area codes are included. A description of relevant research projects can be found on the NCI Funded Research Portfolio Web site.

Selected Advances in Esophageal Cancer Research

- A genomic analysis found that inherited mutations in **three genes were associated with increased risk of Barrett esophagus and esophageal adenocarcinoma**. Published July 2011.
- A transgenic mouse model was developed that provides new insights into the **molecular and cellular origins of Barrett esophagus and esophageal adenocarcinoma**. Published January 2012.
- Researchers identified two new microRNA **markers associated with progression of Barrett esophagus** to esophageal adenocarcinoma. Published February 2012.
- Researchers discovered that **two signaling pathways interact during development of esophageal adenocarcinoma**, suggesting that patients might benefit from a two-pronged therapy approach. Published March 2012.
- Click here to access selected free full-text journal articles on advances in NCI-supported research relevant to esophageal cancer. Click here to search for additional scientific articles or to complete a search tutorial on PubMed.